

Draft Better Brakes Rule

Thank you for taking the time to review the Better Brakes Draft Rule. The Better Brakes Rule will implement [Chapter 70.285 RCW](#), relating to brake friction material.

For the past several months, Ecology has been working with the Better Brakes Rule Workgroup to complete a preliminary draft rule. The workgroup includes representatives of:

- Brake Manufacturers
- Brake Retailers
- Brake Distributors
- Brake Installers
- Vehicle Manufacturers
- The Society of Automotive Engineers
- Environmental Groups

The workgroup has been engaged in ongoing conversations about the major issues that need to be addressed during rule-making. If you would like to view the meeting minutes or the materials the workgroup has discussed, please visit the [Better Brakes Website](#).

While many of the major issues have been discussed by the workgroup and a general level of consensus has been reached on a few issues, there are still several points that need to be worked through and the specifics of each issue have not yet been discussed. Ecology asks that people read this proposal as draft that is open for discussion, input, and certainly change.

This draft is the first opportunity for many people outside the workgroup to submit comments and we look forward to hearing from those who have not yet been involved. Ecology has a strong desire to improve this proposal and is eagerly seeking comments from all stakeholders. We look forward to continuing the collaborative efforts that have gotten us to this point.

We are asking people to submit written comments or attend either of our workshops. Ecology will be hosting an in-person workshop on January 26 and an only workshop on January 31st. Registration is required and you will find details on the [Better Brakes Website](#). You may submit written comments, via email, to Ian Wesley at ian.wesley@ecy.wa.gov. Ian will also be available over the phone at 360-407-6747.

If you plan to submit written comments please do so by February 15th, 2012.

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WAC 173-901-010 Purpose

1. This chapter implements [Chapter 70.285 RCW](#), which mandates a phase out of the use of copper, asbestos, and several heavy metals in brake friction material that is sold or offered for sale in Washington state.
2. As brake friction materials wear down, copper and other metals are deposited on roadways, where they are washed into our streams and rivers. Copper is highly toxic to fish and other aquatic species. Young salmon are especially susceptible to the effects of copper. Removing copper and other toxic metals from brake materials will help to clean up water bodies around the state.

WAC 173-901-020 Applicability – Who must comply with the chapter?

This chapter applies to:

1. Manufacturers, wholesalers, distributors, installers, and retailers of brake friction materials, and
2. Manufacturers, wholesalers, distributors, and retailers of motor vehicles containing brake friction materials that are sold or offered for sale in Washington state.

WAC 173-901-030 Applicability – Which friction materials must comply with this chapter?

1. This chapter applies to brake friction materials intended for use on motor vehicles, as defined in [RCW 46.04.320](#), that are subject to licensing requirements under [RCW 46.16.010](#).
2. Some brake friction materials are exempted from this chapter by [Chapter 70.285 RCW](#). These include brake friction materials intended for use on:
 - a. motorcycles as defined in [RCW 46.04.330](#);
 - b. motor vehicles employing internal-closed-oil-immersed motor vehicle brakes or similar brake systems that are fully contained and emit no debris or fluid under normal operating conditions;
 - c. military combat vehicles;
 - d. race cars, dual-sport vehicles, or track day vehicles, whose primary use is for off-road purposes and are permitted under [RCW 46.16.160](#);
 - e. collector vehicles, as defined in [RCW 46.04.126](#); or
 - f. motor vehicle brakes designed primarily to hold motor vehicles stationary and not for use while motor vehicles are in motion.
3. Some brake friction materials are exempt from certain requirements of WAC 173-901. These include:
 - a. Brake friction material manufactured prior to 2015 is exempt from WAC 173-901-050 subsection (1) and subsection (2) and WAC 173-901-060. This exemption expires on January 1, 2025;
 - b. Brake friction material manufactured prior to 2021 is exempt from WAC 173-901-050 Subsection (2). This exemption expires on January 1, 2031;

- c. Brake friction material manufactured as part of an original equipment service contract for vehicles manufactured prior to January 1, 2015, is exempt from WAC 173-901-050 subsection (1) and subsection (2); and
 - d. Brake friction material manufactured as part of an original equipment service contract for vehicles manufactured prior to January 1, 2021, is exempt from WAC 173-901-050 subsection (2).
4. Friction materials that can be used on both exempted and non-exempted vehicles must comply with this chapter unless they are clearly labeled as intended for a specific use that is exempted from the requirements of [Chapter 70.285 RCW](#) and WAC 173-901.

WAC 173-901-040 Definitions

1. **“Brake Friction material”** means that part of a motor vehicle brake designed to retard or stop the movement of a motor vehicle through friction against a rotor made of a more durable material. ‘Rotor’ means the rotating portion of a motor vehicle brake system, including but not limited to brake disks and brake drums.
2. **“Brake friction material manufactured as part of an original equipment service contract”** means brake friction material that:
 - a. is provided as service parts originally designed for and using the same brake friction material formulation sold with a new motor vehicle. This means that the service parts must be identical to the parts that originally came with the new motor vehicle -- they must be indistinguishable. If there are any changes to the design of the service part, or its friction formulation, the product is no longer brake friction material manufactured as part of an original equipment service contract; and
 - b. is manufactured as part of a contract between a vehicle manufacturer and a brake friction material manufacturer that requires the brake friction material manufacturer to provide identical parts to those that originally came with a new motor vehicle. The brake friction material manufacturer may only sell these parts directly to the other party to the contract, the vehicle manufacturer.
3. **“Certification mark”** has the same meaning as in Title 15 Section 1127 of the United States Code.
4. **“Department”** means the Department of Ecology.
5. **“Industry-sponsored registrar”** means an organization or organizations that are utilized by the brake manufacturing industry to certify and register compliance with the requirements of [Chapter 70.285 RCW](#) and WAC 173-901.
6. **“ISO”** means the International Standards Organization.
7. **“Manufacturer”** means a person manufacturing or assembling motor vehicles or motor vehicle equipment, or importing motor vehicles or motor vehicle equipment for resale.
8. **“Motor Vehicle”** does not include:
 - a. Motorcycles as defined in [RCW 46.04.330](#);

- b. Motor vehicles employing internal-closed-oil-immersed motor vehicle brakes or similar brake systems that are fully contained and emit no debris or fluid under normal operating conditions;
 - c. Military combat vehicles;
 - d. Race cars, dual-sport vehicles, or track day vehicles, whose primary use is for off-road purposes and are permitted under [RCW 46.16.160](#); or
 - e. Collector vehicles, as defined in [RCW 46.04.126](#).
9. **“Motor Vehicle Brake”** means an energy conversion mechanism used to retard or stop the movement of a motor vehicle. ‘Motor vehicle brake’ does not include brakes designed primarily to hold motor vehicles stationary and not for use while motor vehicles are in motion.
10. **“Regulated constituents”** means:
- c. asbestiform fibers;
 - d. cadmium and its compounds ;
 - e. chromium(VI)-salts;
 - f. lead and its compounds; and
 - g. mercury and its compounds;
11. **“SAE”** means the SAE International.
12. **“Small volume motor vehicle manufacturer”** means a manufacturer of motor vehicles with Washington annual sales of less than one thousand new passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles, and heavy-duty engines based on the average number of vehicles sold for the three previous consecutive model years.
13. **“Specified concentrations”** means, for each of the following:
- a. asbestiform fibers, 0.1 percent by weight;
 - b. cadmium and its compounds, 0.01 percent by weight;
 - c. chromium(VI)-salts, 0.1 percent by weight;
 - d. lead and its compounds, 0.1 percent by weight;
 - e. mercury and its compounds, 0.1 percent by weight; and
 - f. beginning January 1, 2021, for copper and its compounds, five percent by weight.
14. **“Vehicle Dealer”** has the same meaning as defined in [RCW 46.70.011](#)
15. **“Wholesaler, distributor, installer, and retailer”** includes any person that sells or offers to sell brake friction materials to consumers in the state of Washington, and any person that sells or offers to sell brake friction materials to such person. “Selling or offering to sell brake friction material” includes installing or offering to install brake friction material in a vehicle for a fee.

WAC 173-901-050 Prohibition on the sale of certain brake friction materials

1. Beginning January 1, 2015, no manufacturer, wholesaler, distributor installer, or retailer may sell or offer for sale brake friction material in Washington state that:
- a. contains asbestiform fibers, in concentrations exceeding 0.1 percent by weight;
 - b. contains cadmium and its compounds, in concentrations exceeding 0.01 percent by weight;
 - c. contains chromium(VI)-salts, in concentrations exceeding 0.1 percent by weight;
 - d. contains lead and its compounds, in concentrations exceeding 0.1 percent by weight; or

- e. contains mercury and its compounds, in concentrations exceeding 0.1 percent by weight.
2. Beginning January 1, 2021, no manufacturer, wholesaler, retailer, or distributor may sell or offer for sale brake friction material in Washington state containing more than five percent copper and its compounds by weight.
3. **Exemptions:**
- a. Brake friction material manufactured prior to 2015 is exempt from subsection (1) and subsection (2) of this section for the purposes of clearing inventory. This exemption expires January 1, 2025.
 - b. Brake friction material manufactured prior to 2021 is exempt from subsection (2) of this section for the purposes of clearing inventory. This exemption expires January 1, 2031.
 - c. Brake friction material manufactured as part of an original equipment service contract for vehicles manufactured prior to January 1, 2015, is exempt from WAC 173-901-050 subsection (1) and subsection (2). For more information about parts manufactured as part of an original equipment service contract see WAC 173-901-150.
 - d. Brake friction material manufactured as part of an original equipment service contract for vehicles manufactured prior to January 1, 2021, is exempt from WAC 173-901-045 subsection (2). For more information about parts manufactured as part of an original equipment service contract see WAC 173-901-150.

WAC 173-901-060 Self-certification of compliance

1. Manufacturers of brake friction material must certify to the Department that any brake friction material that is sold or offered for sale in Washington state complies with the requirements of [Chapter 70.285 RCW](#) and WAC 173-901 using the following process:
- a. **Step 1:** Submit a sample of each brake friction material to a laboratory accredited in accordance with WAC 173-901-070 for testing in accordance with WAC 173-901-080.
 - b. **Step 2:** Ensure that the laboratory provides laboratory testing results for each brake friction material directly to an industry-sponsored registrar in accordance with WAC 173-901-075.
 - c. **Step 3:** Ensure that an industry-sponsored registrar assigns each brake friction material that complies with the requirements of [Chapter 70.285 RCW](#) and WAC 173-901 a unique identification code ending in the appropriate environmental compliance indicator as described in WAC 173-901-100.
 - d. **Step 4:** Ensure that an industry-sponsored registrar lists each brake friction material that complies with the requirements of this chapter on the internet in a publicly accessible and searchable database or list. A link to this database or list must be provided to the Department and the Department must be notified if the internet address of this database or list changes.
 - e. **Step 5:** Ensure that self-certification documentation is submitted to an industry-sponsored registrar. Self-Certification documentation includes:
 - i. contact information for the manufacturer; and

- ii. a statement by an authorized representative of the manufacturer that states under penalty of perjury according to the laws of the State of Washington that all brake friction materials bearing the listed unique identification codes are of the same composition as those submitted to the laboratory and meet all of the requirements of [Chapter 70.285 RCW](#) and WAC 173-901.
 - f. **Step 6:** Ensure that the registrar then transmits the self-certification documentation and laboratory testing results, on behalf of the manufacturer, to the Department. These shall be transmitted in a quarterly report. The report will:
 - i. be in an electronic form and format prescribed by the Department;
 - ii. contain a table showing each friction material sold or offered for sale in Washington state as identified by its unique identification codes and the cumulative average of all laboratory testing results for a given friction material demonstrating that the identified friction material complies with the requirements of [Chapter 70.285 RCW](#) and WAC 173-901; and
 - iii. Contain copies of self-certification documentation submitted to the registrar.
 - g. **Step 7:** Ensure that brake friction material and its packaging is marked with proof of certification in accordance with WAC 173-901-090.
2. There is no need to submit self-certification documentation for individual brake friction materials to the Department between the regular quarterly reports.
 3. Manufacturers of brake friction material may use one set of testing results, self-certification documentation, and unique identification code for multiple products using an identical brake friction material formulation.
 4. **Prerequisite for certification:** A manufacturer of brake friction material must file the initial baseline report, described in WAC 173-901-110, before they can certify compliance with the requirements [Chapter 70.285 RCW](#) and WAC 173-901 using the process outlined above.
 5. **Updating certification:** Manufacturers of brake friction material must recertify each previously certified brake friction material at least once every three years.
 6. **Exemption:** Brake friction material manufactured prior to 2015 is exempt from this section.

WAC 173-901-070 Which laboratories must a manufacturer of brake friction material use to certify compliance with this chapter?

1. To certify compliance, a manufacturer of brake friction material must use a laboratory that has been accredited:
 - a. to the ISO 17025:2005 standard by a lab accreditation body that is a signatory to the International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement, as of the effective date of this chapter;
 - b. by any accreditation body that is recognized by the National Environmental Laboratory Accreditation Program, as of the effective date of this chapter;
 - c. by the Washington State Environmental Laboratory Accreditation Program under [RCW 43.21A.230](#) and WAC 173-50; or
 - d. other laboratories approved under subsection (3) of this section.

2. A manufacturer of brake friction material must use a laboratory that is qualified and equipped for testing products in accordance with the SAE 2975:2011 testing method.
3. **May a manufacturer of brake friction material certify compliance using laboratory results from a laboratory other than those listed above?** A manufacturer of brake friction material may certify compliance using testing results generated by a laboratory accredited to an alternative standard or by another laboratory accreditation body if the alternative is approved by the Department in advance of testing results being used for certification. The manufacturer, laboratory, or laboratory accreditation body proposing the alternative shall be responsible for generating data sufficient to demonstrating to the Department that these alternatives are equivalent to or better than the standards or accreditation bodies listed in subsection(1) of this section. Once an alternative laboratory standard or accreditation body has been approved by the Department, any manufacturer may use these laboratories for certification.

WAC 173-901-080 How to test brake friction materials and report results

1. The manufacturer of brake friction material offered for sale in Washington state must ensure that brake friction materials sold or offered for sale in Washington state are tested:
 - a. by a laboratory accredited in accordance with WAC 173-901-070; and
 - b. using the testing protocol SAE 2975:2011 or an alternative testing method or protocol approved under subsection (9) of this section
2. Manufacturers of brake friction material must ensure that brake friction material is tested for each of the following and their compounds:
 - a. antimony;
 - b. asbestiform fibers;
 - c. cadmium;
 - d. chromium (VI);
 - e. copper;
 - f. lead;
 - g. mercury;
 - h. nickel; and
 - i. zinc.
3. **Who is responsible for the accuracy of laboratory testing results?** The manufacturer of brake friction material is responsible for the accuracy of the laboratory testing results reported to the Department.
4. **How many times does each friction material need to be tested?** As SAE 2975:2011 recommends, all testing for the regulated constituents, copper, nickel, zinc, and antimony must be done, at least, in triplicate.
 - a. Due to the margin of error in the test method, additional testing may be required to demonstrate that the brake friction material contains less than the specified concentrations of each of the regulated constituents and copper. For example, if a pad contains 4.9 percent copper the first round of testing results could come back showing

the average testing result is greater than 5 percent copper by weight. These results would not be suitable for demonstrating compliance and the brake friction material would need to be retested in accordance with SAE 2975:2011. These additional testing results must then be calculated into the cumulative average of all testing results. To be used for certification the cumulative average of all testing must show that brake friction materials contain less than the specified concentrations of the regulated constituents and copper.

- b. If an approved alternative testing method or protocol is used, all testing must be done in accordance with the alternative testing method or protocol.
5. **How shall laboratory testing results be reported to the Department?**
 - a. All laboratory testing results for a friction material must be transmitted from the testing laboratory directly to an industry-sponsored registrar.
 - b. The cumulative average of all testing done on a brake friction material formulation must be reported to the Department, via the industry-sponsored registrar, on behalf of the manufacturer.
 - c. The cumulative average must show that the concentration of the regulated constituents and copper are less than the specified concentrations.
6. **What happens if laboratory error occurs?** If laboratory error is suspected, the laboratory may, at its discretion and in accordance with its standard operating procedures, choose to retest the brake friction material. The results from the testing in which the error occurred do not need to be included in the testing results transmitted to the industry-sponsored registrar.
7. **Do trace amounts of the regulated constituents, antimony, copper, nickel, or zinc need to be reported to the Department?** No. Trace amounts of the regulated constituents, antimony, copper, nickel, or zinc do not need to be reported to the Department. Any trace amounts may be reported as zero percent by weight. Trace amounts means:
 - a. for the regulated constituents, amounts less than the specified concentrations; and
 - b. for antimony, copper, nickel and zinc, amounts less than .1 percent by weight.
8. **How long does a manufacturer of brake friction material need to retain copies of laboratory testing results used for certification?** A manufacturer of brake friction materials shall maintain copies of laboratory testing results for a period of ten years after the date of certification and shall provide copies of these documents to the Department upon its request.
9. **May a manufacturer of brake friction material certify compliance using testing results derived using a method or protocol other than SAE 2975:2011?** A manufacturer of brake friction material may use alternative testing and sampling preparation methods if the alternative is approved by the Department in advance of using these testing methods or protocols for certification. The manufacturer proposing the alternative shall be responsible for generating data sufficient to demonstrate to the Department that the alternative is at least as effective as SAE 2975:2011. Once an alternative testing method or protocol has been approved by the Department, any manufacturer may use the approved, alternative method for certification. The Department may only approve alternative testing procedures:
 - a. when a manufacturer of brake friction material proposes an alternative testing method or protocol;

- b. when the manufacturer has provided sufficient evidence to demonstrate that the proposed alternative is at least as effective as SAE 2975:2011; and
- c. when the proposed alternative method or protocol is publicly available.

WAC 173-901-090 Marked proof of certification

1. **What is marked proof of certification?** Marked proof of certification is a certification mark appearing on brake friction material packaging coupled with a unique identification code, ending in the appropriate environmental compliance indicator described in WAC 173-901-100, appearing on the brake friction material. The certification mark on the product serves to notify end users of the brake friction material that the product is compliant with the law. While the identification code is used to link the product to laboratory testing results and self-certification documentation. Together the code and certification mark provide proof that the brake friction material meets the requirements of [Chapter 70.285 RCW](#) and WAC 173-901. When a brake friction material manufacturer marks a brake friction material or its packaging with proof of certification they are certifying that:
 - a. the brake friction material meets the applicable criteria for the environmental compliance indicator, described in WAC 173-901-100, with which it has been marked;
 - b. the brake friction material has been registered with an industry-sponsored registrar; and
 - c. self-certification documentation has been submitted to the Department.
2. **When must brake friction material and its packaging be marked?** Brake friction material that is manufactured after January 1, 2015 and is sold or offered for sale in Washington state must have marked proof of certification on the brake friction material and its packaging.
3. **How must brake friction material be marked?**
 - a. Manufacturers of brake friction material must:
 - i. mark brake friction material with the unique identification code issued by an industry-sponsored registrar;
 - ii. ensure that the unique identification code is a code that ends with the appropriate environmental compliance indicator described in WAC 173-901-100;
 - iii. mark brake friction material with the last two digits of the year the material was manufactured. This must be placed immediately to the right of the unique identification code; and
 - iv. ensure that the marking on the brake friction material is legible.
 - b. Brake friction material marked in accordance with SAE J866:2012 meets the requirements of [Chapter 70.285 RCW](#) and WAC 173-901.
4. **May a manufacturer of brake friction material mark a brake friction material with additional information such as batch code information?** Yes. A manufacturer of brake friction material may mark brake friction material with additional information such as batch code information. Batch code information must be marked in such a way as to not confuse the end user of the product

5. **How must brake friction material packaging be marked?** Brake friction material packaging must be marked with a certification mark. The certification mark must be registered with the United States Patent and Trademark Office and it must be intended to certify that the brake friction material contained in the package meets the requirements of [Chapter 70.285 RCW](#) and WAC 173-901. Brake friction material packaging may be marked with a certification mark that is owned by an industry-sponsored registrar.
6. **Do friction materials that are not required to comply with this chapter need to be marked?** There is no requirement that these friction materials be marked. A brake friction material manufacturer may mark products that are not required to comply with the requirements of the law with 'WX'.

WAC 173-901-100 Environmental compliance indicator

1. **What is the environmental compliance indicator?** The environmental compliance indicator is the last letter or last two letters in the unique identification code assigned by an industry-sponsored registrar. It must be an 'A', 'B', 'N' or 'WX', and it allows a person to determine the level of environmental compliance of the brake friction material.
2. **What does the environmental compliance indicator 'A' indicate?** An 'A' indicates that the brake friction material manufacturer has submitted self-certification documentation and laboratory testing results showing the brake friction material does not contain any of the following regulated constituents, in amounts exceeding the specified concentrations:
 - a. Asbestiform fibers, 0.1 percent by weight;
 - b. Cadmium and its compounds, 0.01 percent by weight;
 - c. Chromium(VI)-salts, 0.1 percent by weight;
 - d. Lead and its compounds, 0.1 percent by weight; or
 - e. Mercury and its compounds, 0.1 percent by weight.
3. **What does the environmental compliance indicator 'B' indicate?** A 'B' indicates that the brake friction material manufacturer has submitted self-certification documentation and laboratory testing results showing the brake friction material does not contain any of the compounds listed in subsection (2) of this section in amount exceeding the specified concentration and that the brake friction material contains between .5 and five percent copper by weight.
4. **What does the environmental compliance indicator 'N' indicate?** An 'N' indicates that the brake friction material manufacturer has submitted self-certification documentation and laboratory testing results showing the brake friction material does not contain any of the compounds listed in subsection(2) of this section in amounts exceeding the specified concentrations and that the brake friction material contains less than .5 percent copper by weight.
5. **What does the environmental compliance indicator 'WX' indicate?** A 'WX' indicates that the brake friction material has either been granted an exemption from certain requirements of [Chapter 70.285 RCW](#) and WAC 173-901, under WAC 173-901-140, or it is intended for use on a vehicle that is not required to meet the requirements of [Chapter 70.285 RCW](#) and WAC 173-901. A brake friction material marked with a 'WX' may only be installed on the vehicles or type of

vehicles for which it is intended – it must not be installed on a vehicle that is required to comply with [Chapter 70.285 RCW](#) and WAC 173-901.

WAC 173-901-110 Reporting requirements for brake friction material manufacturers

1. After January 1, 2015, self-certification documentation submitted to the Department, under WAC 173-901-060, will fulfill brake friction materials manufacturers' reporting requirements, under [RCW 70.285.70](#).
2. By January 1, 2013, manufacturers of brake friction material offered for sale in Washington state are required to file an initial baseline report with the Department.
3. For the initial baseline report, due by January 1, 2013, each manufacturer of brake friction material must report the following information to the Department:
 - a. Contact information for the manufacturer, including the mailing address, phone number, and email address of a representative of the company who can serve as a point of contact for the Department;
 - b. For each of the following Federal Highway Administration (FHWA) Vehicle Classes, brake friction material manufacturers must provide the average concentrations of copper, nickel, zinc, and antimony in brake friction materials manufactured during 2011:
 - i. **Passenger Cars** (also known as FHWA Vehicle Class 2), including all sedans, coupes, and station wagons manufactured primarily for the purpose of carrying passengers;
 - ii. **Other Two-Axle, Four-Tire Single Unit Vehicles** (also known as FHWA Vehicle Class 3), including all two-axle, four-tire, vehicles, other than passenger cars. Included in this classification are pickups, panels, vans, and other vehicles such as campers, motor homes, ambulances, hearses, carryalls, and minibuses;
 - iii. **Buses** (also known as FHWA Vehicle Class 4), including all vehicles manufactured as traditional passenger-carrying buses with two axles and six tires or three or more axles;
 - iv. **Single-Unit Trucks** (also known as FHWA Vehicle Classes 5-7), including all vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., with two or more axels; and
 - v. **Single and Multi-Trailer Trucks** (also known as FHWA Vehicle Classes 8 - 13), including all vehicles consisting of two units, one of which is a tractor or straight truck power unit.
4. **How will manufacturers of brake friction material calculate the average concentrations of copper, nickel, zinc, and antimony in brake friction materials?**
 - a. For the initial report, manufacturers of brake friction material are not required to conduct laboratory tests on brake friction materials to determine the concentrations of copper, nickel, zinc, and antimony. A brake friction material manufacturer may report using a variety of methods and data sources to calculate the average concentrations, including:

- i. the design intent or formula of brake friction materials;
 - ii. consulting with suppliers to determine the concentrations of these elements in raw materials;
 - iii. purchasing and sales data; or
 - iv. any other methods or data sources appropriate for calculating these averages.
 - b. Brake friction material manufacturers must report an average concentration that is weighted by the amount of each formula that is manufactured. For example: if a manufacturer made 9 lbs of formula A, containing 10% copper, and 1 lbs of Formula B, containing 1% copper, the average concentration, reported to the Department, would be: 9.1% copper.
 - c. Brake friction material manufacturers must report the average concentration based on the amount of the element present in the brake friction material. For example: Only 79.9% of the amount of Copper Oxide (CuO) used in a brake friction material formula would be reported as Copper.
 - d. Averages, reported to the Department, must be rounded to the tenth of a percent.
5. **How should brass be calculated into the average reported to the Department?** When possible brake friction material manufacturers should calculate the average concentrations of copper, nickel, zinc, and antimony using the actual amounts of these elements in the brass they are using. If this information cannot be obtained, the manufacturer may assume that the brass they are using contains 70% copper and 30% zinc, by weight.
6. **How will brake friction material manufacturers transmit the initial report to the Department?** Initial baseline reporting will follow a similar process as the certification procedure outlined in WAC 173-901-060, and after a manufacturer has filed the initial report they may begin to certify brake friction material as complying with the requirements of Chapter 70.285 RCW and WAC 173-901. Initial baseline reporting will follow the following process:
 - a. **Step 1:** Manufacturers of brake fiction material shall calculate the average concentrations of copper, nickel, zinc, and antimony in brake fiction materials intended for use on each of the classes of vehicles outlined in subsection (3)(b) of this section;
 - b. **Step 2:** Manufacturers of brake fiction shall transmit this information to an industry-sponsored registrar.
 - c. **Step 3:** Manufacturers of brake fiction shall ensure that the industry-sponsored registrar transmits this information to Department in an electronic form and format prescribed by the Department.

WAC 173-901-120 How will the Department establish baseline concentration levels for copper, antimony, nickel, and zinc?

1. By July 1st, 2013, The Department will calculate the mean concentration of copper, antimony, nickel, and zinc in brake friction material from the data submitted by brake friction material manufacturers, under WAC 173-901-110, for each of the vehicle classes described in WAC 173-901-110 subsection (3)(b).

2. By July 1st, 2015, the Department shall recalculate the baseline using laboratory testing data submitted as part of the self-certification documentation submitted to the Department, under WAC 173-901-060. At this time the Department shall also calculate the number of brake friction materials that fall within various concentration ranges for each element.

WAC 173-901-130 Applying for an exemption

1. **Applicability.** Manufacturers of brake friction material or motor vehicles may apply to the Department for an exemption from the requirements of this chapter. Exemptions are limited to:
 - a. small volume vehicle manufacturers;
 - b. specific motor vehicle models; or
 - c. special classes of vehicles, such as fire trucks, police cars, and heavy or wide-load equipment hauling vehicles.
2. **Criteria for receiving an exemption.** To receive an exemption the manufacturer must demonstrate that complying with the requirements of [Chapter 70.285 RCW](#) and this chapter:
 - a. is not feasible;
 - b. does not allow compliance with safety standards; or
 - c. causes significant financial hardship.
3. **Application contents.** The application must include:
 - a. the contact information, including the name, phone, email, and mailing address, for a representative of the manufacturer seeking the exemption who can answer questions about the application;
 - b. a detailed description of:
 - i. the specific motor vehicle model or the class of motor vehicle for which the brake friction material is intended;
 - ii. the special needs or characteristics of the vehicle(s) that require the use of noncompliant brake friction material;
 - iii. brake friction material for which the exemption is sought including the concentration of the regulated constituent(s) and copper in the brake friction material for which the applicant is seeking an exemption; and
 - iv. the purpose of the regulated constituent(s) and copper in the brake friction material;
 - c. an estimate and a description of the method used to derive this estimate of the number of vehicles in Washington state that would be able to use the exempted brake friction material;
 - d. a statement that complying with the requirements of this chapter is not feasible, does not allow compliance with safety standards, or causes significant financial hardship;
 - e. detailed documentation that reasonably demonstrates that the statement in subsection (3)(d) of this section is true and correct. Documentation must at a minimum include:
 - i. a list of all known brake friction materials that meet the requirements of [Chapter 70.285 RCW](#) and WAC 173-901;

- ii. an analysis of why these brake friction materials are not viable options for the specific vehicle model, class of vehicle, or small volume vehicle manufacturer for which the exemption is sought; and
 - iii. if the applicant is seeking an exemption on the grounds that complying with the requirements of this chapter would cause a significant financial hardship, the applicant must submit financial documents demonstrating this to be the case.
 - f. a description of the efforts the manufacturer has undertaken to reach compliance with [Chapter 70.285 RCW](#) prior to seeking an exemption; and
 - g. the signature of an authorized representative of the manufacturer and an accompanying statement that declares under penalty of perjury according to the laws of the State of Washington that the information contained in the application is accurate.
4. **Applications shall be mailed to:**

DEPARTMENT OF ECOLOGY
HWTR – BETTER BRAKES
PO BOX 47600
OLYMPIA WA 98504-7600

5. Applicants shall also email an electronic copy of the application to the Better Brakes coordinator who's email address may be found on Ecology's webpage.
6. **All mailings under this section must be mailed using certified mail.**

WAC 173-901-140 Process for reviewing an exemption application

1. Upon receipt of an exemption application the Department will review the application to determine if the application is complete. A complete application will include each item in WAC 173-901-130(3).
2. The Department will notify the applicant, with-in 30 days from the receipt of the application:
 - a. that the application has been received and is complete; or
 - b. that the application is incomplete and identify the missing or incomplete sections. If the application is incomplete, the applicant must then complete the application and resubmit it.
3. After receiving a complete application, the Department will review the application. The Department must, with-in 90 days from mailing the notice that the completed application has been received, either:
 - a. determine that the applicant **has demonstrated** that complying with the requirements of this chapter is not feasible, does not allow compliance with safety standards, or causes significant financial hardship and grant the exemption;
 - b. determine that the applicant **has been unable to demonstrate** that complying with the requirements of this chapter is not feasible, does not allow compliance with safety standards, or causes significant financial hardship and deny the application for exemption; or

- c. determine that the applicant **has not provided enough information to demonstrate** that complying with the requirements of this chapter is not feasible, does not allow compliance with safety standards, or causes significant financial hardship and request additional information.
4. If the Department requests additional information from the applicant the applicant must:
 - a. notify the Department that it has received the request for additional information;
 - b. inform the Department that it intends to provide the requested additional information; and
 - c. specify a reasonable timeframe, not more than 180 day, within which the applicant will provide the requested information.
5. After the Department has received the additional information the Department will review the application and may make any of the determinations listed under subsection (3) of this section.
6. **Renewal of exemptions:** If the Department grants an application for an exemption, the exemption will be valid for a three year term. Within 90 days prior to the end of the three year term the applicant shall provide written notice, that the exemption is still needed. Upon sending this notice the exemption will renew automatically, for an additional three year term.
7. **Expiration of exemptions:** If the Department has reason to believe that an exemption may no longer be needed, the Department may notify the manufacturer that in order to receive the next renewal they will need to update their application and demonstrate that the exemption is still needed. The Department must provide this notice at least one year prior to the next renewal date. If the manufacturer fails to update its application or the Department, after reviewing the updated application, determines that the exemption is no longer needed the exemption will expire.
8. **All mailings under this section must be mailed using certified mail.**

WAC 173-901-150 Brake friction material manufactured as part of an original equipment service contract (OESC)

1. Brake friction materials manufactured as part of an original equipment service contract (OESC) are not required to comply with either of the following:
 - a. [RCW 70.285.030](#) subsection (1) and WAC 173-901-050 Subsection (1), for brake friction materials intended for use on vehicles manufactured prior to January 1, 2015; or
 - b. [RCW 70.285.030](#) subsection (2) and WAC 173-901-050 Subsection (2), for brake friction materials, intended for use on vehicles manufactured prior to January 1, 2021.
2. Brake friction materials manufactured as part of an OESC are still subject to all other requirements of [Chapter 70.285 RCW](#) and WAC 173-901, including but not limited to certification of compliance, marked proof of certification, and reporting requirements.
3. **How does a manufacturer of brake friction material manufactured as part of an OESC certify compliance with the requirements of [Chapter 70.285 RCW](#) and WAC 173-901?**
 - a. If a brake friction material manufactured as part of an OESC does not contain any of the regulated constituents or copper in amounts exceeding the specified concentrations,

the manufacturer of the brake friction material should certify using the normal procedure outlined in WAC 173-901-060.

- b. If the brake friction material contains more than the specified concentrations, the manufacturer of the brake friction material must follow the same procedure outlined in WAC 173-901-060 except that:
 - i. for brake friction materials manufactured as part of an OESC for vehicles manufactured prior to January 1, 2015, manufacturers of brake friction material will not be required to submit testing results for the regulated constituents. Manufacturers of brake friction material must still submit testing results to an industry-sponsored registrar and to the Department for copper, nickel, zinc, and antimony, to fulfill reporting requirements under [RCW 70.285.070](#) and WAC 173-901-110;
 - ii. Brake friction manufacturers must ensure that the unique identification code issued by an industry-sponsored registrar ends in a 'WX'; and
 - iii. Brake friction manufacturers must include in the self-certification documentation, submitted to the Department and an industry-sponsored registrar, a description of the vehicle model and its year of manufacturer for which the brake friction material is manufactured.
4. **May brake friction material manufactured as part of an OESC be installed on a vehicle other than the one it is intended for?** Brake friction material manufactured as part of an OESC must not be sold or offered for sale for use on a vehicle other than the vehicle model and model year described in the self-certification documentation.
5. **Vehicle manufacturers responsibilities:**
 - a. Beginning January 1, 2021, manufacturers of new motor vehicles offered for sale in Washington state must ensure that motor vehicles are equipped with brake friction material certified to be compliant with the requirements of this chapter.
 - b. A vehicle manufacturer shall have a system in place to ensure that brake friction material manufactured as part of an OESC is only installed on the vehicles it is intended for, such as a unique part number.

WAC 173-901-160 Responsibilities of wholesalers, distributors, installers, and retailers of brake friction materials

1. **May I sell brake friction material that I have in stock before the effective dates of [Chapter 70.285 RCW](#)?** Yes. Brake friction material manufactured before the effective dates may still be sold for a period of time:
 - a. brake friction material that was manufactured before January 1, 2015, may be sold until January 1, 2025, regardless of its content or whether or not it has been marked with proof of certification; and
 - b. brake friction material that was manufactured before January 1, 2021, and contains more than 5 percent copper by weight may be sold until January 1, 2031.

2. **How will I know that the brake friction material I sell is compliant?** Brake friction material and its packaging are required to be marked with a certification mark and unique identification code indicating that the brake friction material complies with this chapter. Please refer to WAC 173-901-090 and WAC 173-901-100 for details on the markings. The following table describes which brake friction materials are acceptable for sale and when:

Brake friction material marked with:	May be sold until:
'N' followed by the last two digits of the year of manufacture	Brake friction material marked with an 'N' meets all of the requirements of this chapter and there are no restrictions on its sale.
'B' followed by the last two digits of the year of manufacture	Brake friction material marked with a 'B' meets all of the requirements of this chapter and there are currently no restrictions on its sale. However future restriction may be put in place.
'A' followed by the last two digits of the year of manufacture when the year of manufacture is before 2015	Brake friction material marked with an 'A' that has a manufacture year before 2015 may be sold until 2025.
'A' followed by the last two digits of the year of manufacture when the year of manufacture is 2015 or later	Brake friction materials marked with an 'A' that has a manufacture year of 2015 or later, may not be sold or offered for sale in WA state.
'WX' with or without the year of manufacture	Brake friction materials marked with an 'X' are intended for use on exempted vehicles. It is a violation of this chapter to install these friction materials on non-exempt vehicles.
Brake Friction material that is not marked with an environmental compliance indicator or the year of manufacture	Unmarked brake friction material manufactured prior to 2015 may be sold for use on any vehicle until 2025. It is a violation of this chapter to sell unmarked brake friction material that is manufactured after 2015 for use on a vehicle that is required to comply with this chapter

3. **What will happen if I sell a pad that is in violation of this chapter?** For a complete description of the enforcement provisions please see WAC 173-901-180. However if a wholesaler, distributor, installer, or retailer is found to be violating this chapter, the Department must issue a warning letter and provide information and assistance to help this person achieve compliance. If they continue to sell brake friction material in violation of this chapter after receiving a warning and assistance, the Department may issue penalties.
4. **Is it a violation of this chapter to sell a brake friction material that has been marked in accordance with this chapter, yet is found to contain one of the regulated constituents or copper in amounts exceeding the specified concentrations?**
- A wholesaler, distributor, installer, or retailer that sells or offers for sale brake friction material that has been marked with proof of certification will not be in violation of this

chapter, even if the brake friction material contains the regulated constituents or copper in amounts exceeding the specified concentrations.

- b. However if the wholesaler, distributor, installer, or retailer knew that the brake friction material contained any of the regulated constituents or copper in amounts exceeding the specified concentrations and knew that the brake friction material was labeled incorrectly, yet sold it or offered it for sale in Washington State, they would be in violation of [Chapter 70.285 RCW](#) and WAC 173-901.
- 5. What should I do if I am sold brake friction material that does not comply with the requirements of this chapter?** If you are sold brake friction material that is in violation of this chapter, you may not resell it. Report the violation to the Department.
- 6. If I purchase brake friction material from a manufacturer and package it in a new box, what must I do to before offering my product for sale in Washington state?** You are responsible for ensuring that the brake friction material is registered with an industry-sponsored registrar before re-boxing the product.
- a. If the brake friction material has already been registered, you don't need to re-register or retest the brake friction material and are not responsible for the accuracy of the information submitted to the registrar and the Department. You must package the brake friction material in a package that is marked in accordance with WAC 173-901-090.
 - b. If the brake friction material has not been registered, you may not offer the product for sale in Washington state, unless you register the product with an industry-sponsored registrar and mark the brake friction material and its packaging in accordance with WAC 173-901-090.

WAC 173-901-170 Responsibilities of vehicle dealer or other people selling motor vehicles

- 1. Do vehicle dealer or other people selling motor vehicles have a responsibility to ensure that the cars they sell are equipped with compliant brake friction material?**
 - a. Vehicle dealers or other people selling motor vehicles do not have a responsibility to ensure that the cars they sell are equipped with compliant brake friction material.
 - b. However if a vehicle dealer or another person who is selling a motor vehicle replaces the brake friction material of a used car, prior to resale, they must replace the brake friction material with a brake friction material that complies with the requirements of this chapter.

WAC 173-901-180 Enforcement – Violations – Penalties

1. The Department shall enforce this chapter. The Department may:
 - a. Periodically purchase and test brake friction material sold or offered for sale in Washington state to verify that the material complies with this chapter.

- b. Verify that brake friction material manufacturers have submitted accurate self-certification documentation to the Department by requiring brake friction manufacturers to submit complete copies of laboratory testing results and/or samples of brake friction material formulations for which self-certification documentation has been submitted. A manufacturer that is required to submit verifying testing results or samples of brake friction material must provide these with-in seven days of receiving a written notice from the Department. The Department may not require a manufacturer of brake friction material to verify compliance in this manner more than once every three years.
2. Enforcement of this chapter by the Department must rely on notification and information exchange between the Department and manufacturers, distributors, retailers, installers, and an industry-sponsored registrar.
 - a. After issuing a penalty to or requiring a recall from a manufacturer of brake friction material, the Department must notify the industry-sponsored registrar of the violation and inform the registrar if any brake friction materials with a registered unique identification code are not in compliance with the requirements of [Chapter 70.285 RCW](#) or WAC 173-901.
 - b. The Department will also post a notice of the penalty or recall on its website.
3. The Department shall issue one warning letter by certified mail to a manufacturer, distributor, installer, or retailer that sells or offers to sell brake friction material in violation of this chapter, and offer information or other appropriate assistance regarding compliance with this chapter. Once a warning letter has been issued to a distributor or retailer for violations under subsections (4) and (5) of this section, the Department need not provide warning letters for subsequent violations by that distributor or retailer. For the purposes of subsection (5) of this section, a warning letter serves as notice of the violation. If compliance is not achieved, the Department may assess penalties under this section.
4. A brake friction material distributor or retailer that violates this chapter is subject to a civil penalty not to exceed ten thousand dollars for each violation. Brake friction material distributors or retailers that sell brake friction material that is packaged consistent with [RCW 70.285.080](#)(2)(b) and WAC 173-901 are not in violation of this chapter. However, if the Department conclusively proves that the brake friction material distributor or retailer was aware that the brake friction material being sold violates [RCW 70.285.030](#) or [RCW 70.285.050](#) or WAC 173-901, the brake friction material distributor or retailer is subject to civil penalties according to this section.
5. A brake friction material manufacturer that knowingly violates this chapter shall recall the brake friction material and reimburse the brake friction distributor, installer, retailer, or any other purchaser for the material and any applicable shipping and handling charges for returning the material. A brake friction material manufacturer that violates this chapter is subject to a civil penalty not to exceed ten thousand dollars for each violation.
6. A motor vehicle distributor or retailer that violates this chapter is subject to a civil penalty not to exceed ten thousand dollars for each violation. A motor vehicle distributor or retailer is not in violation of this chapter for selling a vehicle that was previously sold at retail and that contains

brake friction material failing to meet the requirements of this chapter. However, if the Department conclusively proves that the motor vehicle distributor or retailer installed brake friction material that violates [RCW 70.285.030](#), [70.285.050](#), [70.285.080\(2\)\(b\)](#), or WAC 173-901 on the vehicle being sold and was aware that the brake friction material violates [RCW 70.285.030](#), [RCW 70.285.050](#), [RCW 70.285.080\(2\)\(b\)](#), or WAC 173-901, the motor vehicle distributor or retailer is subject to civil penalties under this section.

7. A motor vehicle manufacturer that violates this chapter must notify the registered owner of the vehicle within six months of knowledge of the violation and must replace at no cost to the owner the noncompliant brake friction material with brake friction material that complies with this chapter. A motor vehicle manufacturer that fails to provide the required notification to registered owners of the affected vehicles within six months of knowledge of the violation is subject to a civil penalty not to exceed one hundred thousand dollars. A motor vehicle manufacturer that fails to provide the required notification to registered owners of the affected vehicles after twelve months of knowledge of the violation is subject to a civil penalty not to exceed ten thousand dollars per vehicle. For purposes of this section, "motor vehicle manufacturer" does not include a vehicle dealer defined under [RCW 46.70.011](#) and required to be licensed as a vehicle dealer under [Chapter 46.70 RCW](#).
8. Before the effective date of the prohibitions in [RCW 70.285.030](#) or [RCW 70.285.050](#), the Department shall prepare and distribute information about the prohibitions to manufacturers, distributors, and retailers to the maximum extent practicable.
9. All penalties collected under this chapter must be deposited in the state toxics control account created in [RCW 70.105D.070](#).